

### REMARKS/DISCUSSION OF ISSUES

In the final Office Action, dated August 7, 2008, the Examiner rejected claims 2-4 under 35 U.S.C. § 103(a) as being unpatentable over FEUCHT et al. (U.S. Patent Application Publication No. 2006/0125489) in view of KIM (U.S. Patent No. 6,293,136) further in view of TAMAYO DE MIGUEL et al. (U.S. Patent Application Publication No. 2003/0137216). Applicants respectfully traverse the rejections for at least the reasons set forth below.

#### *Claim Summary*

Upon entry of the present Amendment, claim 3 will be amended to more clearly recite the claimed subject matter and to enhance the clarity of the claim language, as discussed below, and claims 5-7 will be submitted for the Examiner's consideration.

Claims 2-7 are pending in the application. Applicants respectfully submit that all pending claims are in condition for allowance.

#### *Finality of Office Action*

Applicants submit that the finality of the subject Office Action, mailed August 7, 2008, is improper and should be withdrawn because the Examiner has reopened prosecution after an Appeal was filed and the Examiner has relied upon a new ground of rejection, which was not necessitated by amendments to the claims. In particular, the Examiner now relies on TAMAYO DE MIGUEL et al., in combination with FEUCHT et al and KIM, in rejecting claims 2-4 under 35 U.S.C. § 103(a), to teach individually addressable resonators, recited in independent claim 3. See Office Action, p. 3. The Examiner acknowledges that the addition of TAMAYO DE MIGUEL et al. constitutes a new ground of rejection. See Office Action, p. 3.

However, the term "individually addressable resonators" was recited in original claim 3, and thus was not added by subsequent amendment. Further, in Applicants' most recent Amendment under 37 C.F.R. § 1.116, filed January 23, 2008, and entered by the Examiner, Applicants merely rewrote claim 3 in independent form to include the subject matter of claim 1 from which claim 3 depended. Therefore, the amendment did not raise new issues requiring further consideration or search.

Accordingly, the new ground of rejection was not necessitated by the amendment to claims 2-4. Therefore, by now relying on TAMAYO DE MIGUEL et al., in combination with FEUTCH et al. and KIM, the Examiner has asserted "a new ground of rejection" that was not "necessitated by applicant's amendment of the claims." See MPEP § 706.07(a) ("Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims, nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).").

Accordingly, the finality of the Office Action is improper, and should be withdrawn. Further, the amendments and new claims in the present Amendment should be entered as a matter of right.

#### ***Rejections under 35 U.S.C. § 103 – Claims 2-4***

The rejection of claims 2-4 under 35 U.S.C. § 103(a) as being unpatentable over FEUCHT et al. in view of KIM further in view of TAMAYO DE MIGUEL et al. should be withdrawn because no proper combination of these references teaches or suggests every feature of the pending claims.

As stated in MPEP § 2143, in order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Without conceding the propriety of the combination of references discussed below, Applicants respectfully submit that the obviousness rejection is improper for failing to meet the ultimate requirement of § 2143. Further, Applicants' silence on certain aspects of the rejections is by no means a concession as to their propriety. Rather, because the applied art fails to disclose at least one feature of the claims for at least the reasons discussed below, Applicants respectfully submit that the rejections are improper and should be withdrawn.

#### **Claim 3**

Independent claim 3 is directed to a sensor having a substrate and multiple individually addressable resonators, and recites, in part, that each of the resonators includes:

*"... an acoustic reflector on the substrate, the acoustic reflector comprising a plurality of layers having alternating high and low acoustic impedances, an uppermost layer having the low impedance; a piezoelectric layer separated from the substrate by the acoustic reflector; first and second resonator electrodes on an upper surface of the piezoelectric layer; and a sensing layer covering a portion of an upper surface of each of the first and second resonator electrodes."*

With respect to claim 3, The Examiner acknowledges that FEUCHT et al. does not disclose a sensor comprising individually addressable resonators, where each individually addressable resonator includes an acoustic reflector. *See* Office Action, p. 2. The Examiner thus relies on KIM, in combination with FEUCHT et al., to teach a resonator including an acoustic reflector. *See* Office Action, pp. 2-3. However, the Examiner does not identify any portion of KIM that discloses "an acoustic reflector," making the basis of the rejection unclear, which is the Examiner's burden. *See, e.g.,* MPEP § 706.02(j) ("[T]he examiner should set forth in the Office action: ... the relevant teaching of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate ...."). The Examiner states only that "Kim discloses the idt's, the acoustic reflector, and different coatings." *See* Office Action, p. 2.

Further, Applicants note that the only apparent mention of a reflector in KIM is the reflector(s) 122 shown in FIGs. 2A and 2B. However, the reflectors 122 are "[f]ormed on the piezoelectric material 112," along with the electrodes 117 (and 117'). *See* FIGs. 2A, 2B; col. 3, lines 30-32 (emphasis added). In contrast, claim 3 recites that the acoustic reflector is between the piezoelectric layer and the substrate, not on the piezoelectric layer (*i.e.*, "a piezoelectric layer separated from the substrate by the acoustic reflector ...."). In fact, such a construction of KIM would not be possible because the piezoelectric layer is, in fact, the substrate. *See, e.g.,* col. 3, lines 43-44.

The Examiner relies on TAMAYO DE MIGUEL et al., in combination with FEUCHT et al. and KIM, only to teach a sensor arrangement comprising a plurality of individually addressable resonators. *See* Office Action, p. 3. TAMAYO DE MIGUEL et al. therefore does not cure the

deficiencies of FEUCHT et al. and KIM.

Further, claim 3, as amended, recites that the acoustic reflector includes multiple layers having alternating high and low acoustic impedances, and that an uppermost layer of the multiple layers has the low impedance. Applicants submit that FEUCHT et al., KIM and TAMAYO DE MIGUEL et al., either alone or in any proper combination, do not teach or suggest this feature.

Accordingly, withdrawal of the rejection of claim 3 based on the combination of FEUCHT et al., KIM and TAMAYO DE MIGUEL et al. is respectfully requested.

#### Claims 2 and 4

With regard to claims 2 and 4, Applicants assert that they are allowable at least because they depend from independent claim 3, which Applicants submit has been shown to be allowable, and in view of their additional recitations.

#### *New Claims – Claims 5-7*

With regard to newly submitted claims 5 and 6, Applicants assert that they are allowable at least because they depend from independent claim 3, which Applicants submit has been shown to be allowable, and in view of their additional recitations.

With regard to newly submitted independent claim 7, Applicants assert that it is allowable at least for substantially the same reasons as discussed above with respect to independent claim 3. In addition, claim 7 recites *"a sensing layer contacting each of the first and second resonator electrodes ..."* The Office Action relies on electrodes 5 and 6 and surface section 8 in FIG. 2 of FEUCHT et al. to teach the first and second resonator electrodes and the sensing layer, respectively. See Office Action, p. 2. However, the surface section 8 does not contact both the electrodes 5 and 6. Accordingly, no proper combination of FEUCHT et al., KIM and TAMAYO DE MIGUEL et al. teaches or suggests this additional feature.

#### *Conclusion*

No other issues remaining, reconsideration and favorable action upon the claims 2-7 now pending in the application are requested.

If any points remain in issue that may best be resolved through a personal or telephonic

interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:

Phillips Electronics North America Corp.

A handwritten signature in black ink, appearing to read 'V-C Ernest', is written over a horizontal line.

by: Van C. Ernest (Reg. No. 44,099)

Date: October 1, 2008

Valentine & Whitt, PLLC  
11951 Freedom Drive, Suite 1260  
Reston VA 20190  
Tel. 571.283.0720  
Fax 571.283.0740